

NOTES ON ALBUNEID CRABS
(CRUSTACEA: DECAPODA: ALBUNEIDAE) FROM
THE CENTRAL EAST COAST OF FLORIDA

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Abstract.—Three species are reported: *Albunea paretii* Guérin-Méneville, 1853, *Lepidopa benedicti* Schmitt, 1935, and *L. websteri* Benedict, 1903. The latter species is recorded from southeast Florida for the first time. Study material includes rare males of both species of *Lepidopa*. A key to western Atlantic albuneids is presented.

Until now, one species of the albuneid genus *Lepidopa* Stimpson, 1858, *L. benedicti* Schmitt, 1935, had been reported from the southeast coast of Florida (Holthuis 1960, Efford 1971). Of the six Atlantic species of the genus, only two, *L. benedicti* and *L. websteri* Benedict, 1903, had been reported from localities in Florida (Efford 1971, Gore et al. 1978, Abele & Kim 1986), although a larva, tentatively identified with a third species, *L. richmondi* Benedict, 1903, was taken in the plankton east of Jupiter Inlet, Martin County, on the Atlantic coast of Florida (Gore & Van Dover 1981).

In 1982 and 1983, collections made with a yabby pump in the vicinity of Fort Pierce, Florida, yielded material of both *L. benedicti* and *L. websteri* at one locality on the Atlantic coast just north of the St. Lucie Inlet (St. Lucie site of Gore et al. 1978).

There are few records for members of *Albunea* from the central east coast of Florida, although this is well within the known range of the two western Atlantic species. Material available for study included a specimen from the Indian River at Fort Pierce.

East American Species of Albuneidae

The east American albuneids comprise ten species in four genera: *Albunea* Weber, 1795 (two species), *Blepharipoda* Randall, 1840 (one species), *Lepidopa* Stimpson, 1858 (six species), and *Zygopa* Holthuis,

1960 (one species). In all, the family now includes seven genera; Efford & Haig (1968) provided a key to the genera.

The two species of *Albunea* Weber (1795: 94), *A. gibbesii* Stimpson (1859:78) and *A. paretii* Guérin-Méneville (1853:48), were treated by Williams (1984) and Abele & Kim (1986). Both have wide ranges in the Americas, from the Carolinas to Brazil, and *A. paretii* also occurs off West Africa.

The single east American species of *Blepharipoda* Randall (1840:130), *B. doelloi* Schmitt (1942:2), is known only from Argentina.

Efford (1971) reviewed the American species of *Lepidopa* Stimpson (1858:230), and recorded five species from the Atlantic coast of the Americas. Since then a sixth east American species, *L. dexteræ* Abele & Efford, 1972, has been described from Panama. Efford (1971:99) recognized four species groups in the genus: *Myops*, *benedicti*, *venusta*, and *californica*. The first three of these are represented in the western Atlantic.

The following species of *Lepidopa* are known from the western Atlantic:

L. benedicti Schmitt (1935:210); south-eastern and northwestern Florida to south-east of Veracruz, Mexico, in the Gulf of Mexico.

L. dexteræ Abele & Efford (1972:502); Panama.

L. distincta Corrêa (1968:77); Dominican Republic and Brazil.

L. richmondi Benedict (1903:895); West Indies and Caribbean Sea to Brazil.

L. venusta Stimpson (1859:79); West Indies to Brazil.

L. websteri Benedict (1903:892); Atlantic coast of southeastern United States.

The genus *Zygopa* was established by Holthuis (1960:21) for *Z. michaelis* Holthuis (1960:22), from Curaçao. Since its original description, *Z. michaelis* has been recorded from off Palm Beach and Miami on the east coast of Florida (Gore & Becker 1977), and from the Florida west coast (Reames et al. 1982).

The east American albuneids can be distinguished by means of the following key.

- 1. Carapace with 4 lateral spines [*Blepharipoda*] *B. doelloi* Schmitt
- Carapace with 1 lateral spine 2
- 2. Carapace lacking median spine or angled projection on anterior margin. Eyes very small, fused together [*Zygopa*] *Z. michaelis* Holthuis
- Carapace with median spine or angled projection on anterior margin. Eyes separate 3
- 3. Eyes narrow, elongate, with distinct cornea. Lateral spine of carapace below linea anomurica [*Albunea*] ... 4
- Eyes (eye plates) broad, oval or squarish, lacking distinct cornea. Lateral spine of carapace above linea anomurica [*Lepidopa*] 5
- 4. Dactyli of second and third pereopods with blunt lobe basally on anterior border *A. gibbesii* Stimpson
- Dactylus of second pereopod with broad spur, of third pereopod with acute, slender spur at base of anterior border
..... *A. paretii* Guérin-Méneville
- 5. Eye plates distinctly squarish, flattened anteriorly, anterior edge with teeth or denticles [*benedicti* Group] 6

- Eye plates round or oval, anterior edge smooth 8
- 6. Groove along posterior edge of carapace continuous, not interrupted in middle of posterior margin [subrostral spine present]
..... *L. richmondi* Benedict
- Groove along posterior edge of carapace interrupted medially 7
- 7. Subrostral spine present
..... *L. dexteræ* Abele & Efford
- Subrostral spine absent
..... *L. benedicti* Schmitt
- 8. Antennal flagellum with 7 articles. Carpus of third maxilliped extending over propodus, overlapping dactylus. Subrostral spine absent [*myops* Group] *L. distincta* Corrêa
- Antennal flagellum with 8 articles. Carpus of third maxilliped not extending to dactylus. Subrostral spine present [*venusta* Group] 9
- 9. Width of emargination in edge of second abdominal somite no greater than length of this somite along midline. Anterior margin of carapace extending in almost straight line between base of orbit and anterolateral projection ... *L. websteri* Benedict
- Width of emargination in anterior edge of second abdominal somite greater than length of this somite along midline. Anterior margin of carapace with distinct anterior bulge between base of orbit and anterolateral projection ... *L. venusta* Stimpson

Almost all of the material reported here was taken at the same site (St. Lucie, Atlantic, of Manning collections; see Manning & Felder, in press). Locality data are as follows: Atlantic Ocean, Florida, Martin County, about 1 mile north of St. Lucie Inlet, 27°10.9'N, 80°09.5'W, shallow sand flat between emergent sabellariid reef and sand beach. Most of the specimens were taken with a yabby pump, a suction device used to sample infaunal organisms; some were

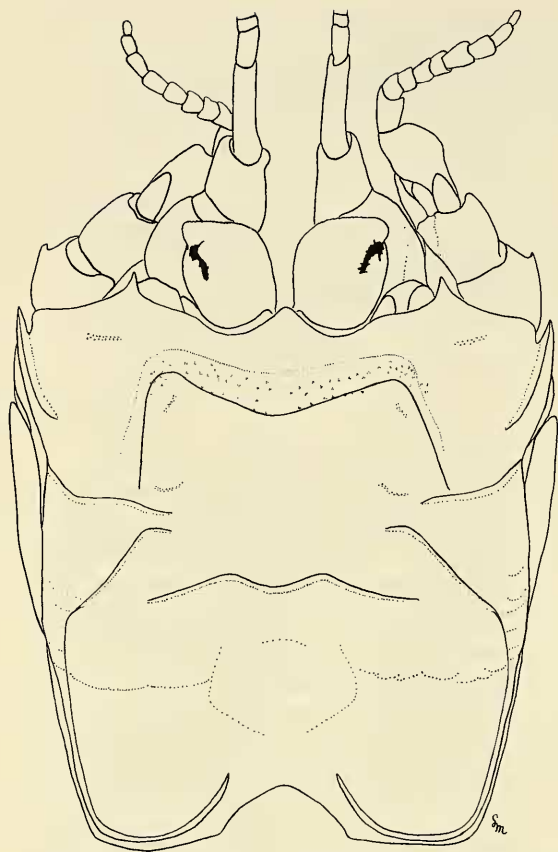


Fig. 1. *Lepidopa benedicti* Schmitt, female, cl 5.0 mm, sta FP-82-2: Carapace.

taken with a garden rake, used on sand at the edge of the wave line. The lepidopas were disturbed by the rake and could be seen re-burying themselves.

Specimens have been deposited in the Indian River Coastal Zone Museum, Harbor Branch Oceanographic Institution, Fort Pierce, Florida (IRCZM), and the National Museum of Natural History, Smithsonian Institution, Washington, D.C. (USNM).

Albunea paretii Guérin-Méneville, 1853

Albunea paretii.—Gore & Becker, 1977:220 [no material].—Young, 1978:177 [South Carolina].—Williams, 1984:249, fig. 183 [original citation and other references given here].—Fox & Ruppert, 1985:52, 122,

128, 259, 286 [South Carolina].—Abele & Kim, 1986:x, 38, 427, 428, 748, figs. d–g on p. 429 [Florida].—Chace et al., 1986:338, fig. on pl. 112 [Bermuda].
Albunea paretii.—Pequegnat, 1975:45 [no localities].

Material.—Florida, St. Lucie County, Indian River, island west of Coon Island, Fort Pierce Inlet; intertidal, with yabby pump; 6 Mar 1985; W. D. Lee and S. Petry; 1 male (USNM).

Size.—Carapace length of male 10.9 mm.

Remarks.—There are other representatives of this species from off Jacksonville Beach, off Daytona Beach, and off Cape Canaveral in the collections of the National Museum of Natural History. The species has a wide range in the Atlantic, from North Carolina to Texas, the West Indies to Brazil, and off West Africa (Holthuis & Manning 1970, Williams 1984).

Lepidopa benedicti Schmitt, 1935

Fig. 1

Lepidopa scutellata.—Benedict, 1903:891, 894, fig. 6 [Pensacola and Morris Cut, Miami; not *L. scutellata* Fabricius, 1793].

Lepidopa benedicti Schmitt, 1935:210 [Replacement name for *L. scutellata* sensu Benedict, 1903].—Holthuis, 1960:31, 32, 33, 34, 35, fig. 5 [several records, from east coast of Florida to southwest coast of Texas; lectotype selected].—Efford, 1971:76, figs. 1a, 2e, 3a, 4e, p, q, 5a, 6e, n, 7a [Florida to Mexico].—Gore & Becker, 1977:220 [no material].—Gore et al., 1978:231, 247 [central east Florida].—Gore & Van Dover, 1981:1016, 1030, 1033 [southeastern and central eastern Florida; no material].—Abele & Kim, 1986:x, 38, 427, 428, 752, fig. h on p. 429 [Florida].

Material.—RBM stations: FP-82-2, 13 Jul 1982, R. B. Manning and C. W. Hart, Jr., yabby pump, 1 female. FP-82-7, 16 Jul 1982, R. B. Manning, yabby pump, 1 male [taken

together with *L. websteri*]. FP-83-6, 13 Jul 1983, R. B. and L. K. Manning, W. D. Lee, rake, 1 male, 2 females [taken together with *L. websteri*]. All specimens USNM.

Vero Beach, 100 meters south of South Beach Park, along shore, in colony of *Emerita*, 4 Mar 1973, 1 female (IRCZM 89:514).—Fort Pierce Inlet, St. Lucie County, worm reef, 6 Feb 1974, 1 female (IRCZM 89:2558).—Walton Rocks, St. Lucie County, worm reef, LES, LB, MGR leg., 19 Jul 1974, 1 female (IRCZM 89:2604).

Size.—Carapace lengths of 2 males, 3 mm and 3.5 mm, of 6 females, 4.5 to 17 mm. Efford (1971) reported that the largest specimen known was a female 22 mm long; he studied only 2 males, the largest measuring 4 mm.

Remarks.—Eye pigment is present in all of these specimens, two lots of which were taken together with *L. websteri*.

Apparently these specimens are from the northernmost locality known for this species on the east coast of Florida, and they demonstrate that the species is fairly common off the Florida east coast.

The specimens in the collections of the Indian River Coastal Zone Museum may have been the basis for the comment by Gore & Van Dover (1981:1016), "The second continental species, *L. benedicti* Schmitt, 1935, occurs in the Gulf of Mexico and along the southeastern and central eastern Florida coastline (... Gore, unpublished)."

Lepidopa websteri Benedict, 1903

Figs. 2, 3

Lepidopa websteri Benedict, 1903:891, 892, fig. 3 [Fort Macon, North Carolina].—Efford, 1971:91, figs. 1b, k, 2j, 3r, 4h, m, 5g, i, 6o [North Carolina, South Carolina, west Florida, Mississippi].—Gore & Becker, 1977:220 [no material].—Young, 1978:177 [South Carolina].—Williams, 1984:250, fig. 184 [additional records from Sapelo Island, Georgia, and Petit

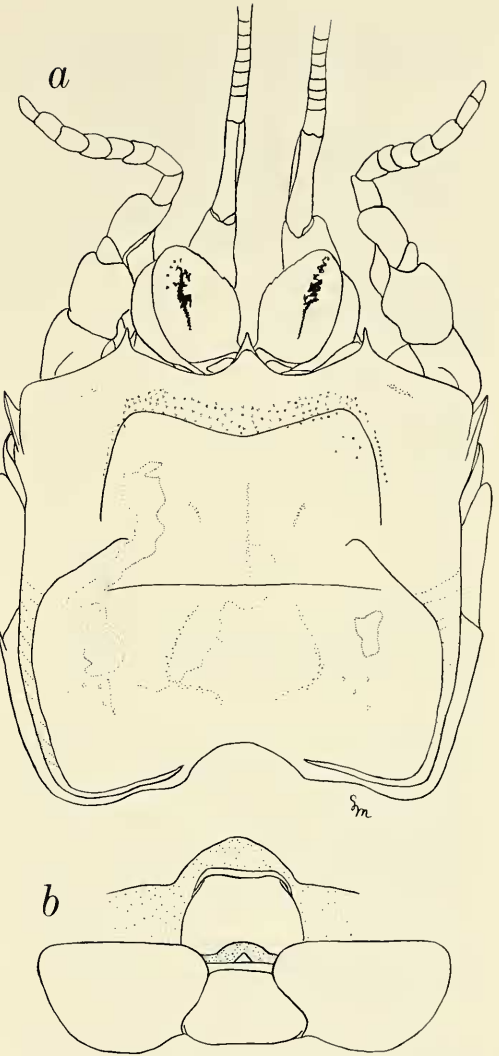


Fig. 2. *Lepidopa websteri* Benedict, female, cl 5.0 mm, sta FP-83-3: a, Carapace; b, Second abdominal somite.

Bois Island, Mississippi].—Fox & Rupert, 1985:39, 114, 122, 129, 187, 196, 259, 286 [South Carolina].—Abele & Kim, 1986: x, 38, 427, 428, 752, fig. i on p. 429 [Florida].

Material.—RBM stations: FP-82-7, 16 Jul 1982, R. B. Manning, yabby pump, 1 female [taken with *L. benedicti*]. FP-83-3, 8 Jul 1983, R. B. and L. K. Manning, yabby pump,

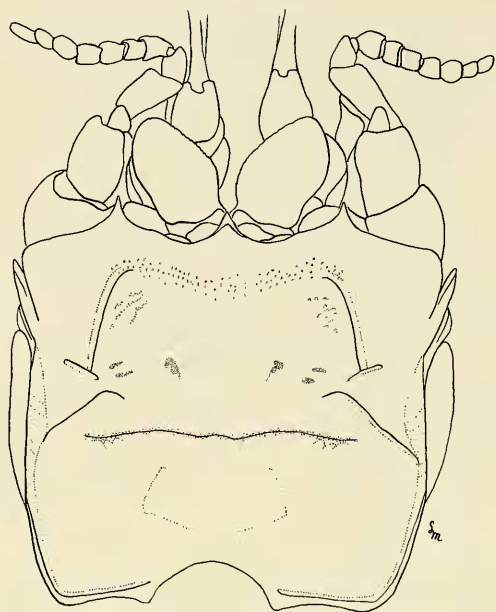


Fig. 3. *Lepidopa websteri* Benedict, female, cl 9.0 mm, sta FP-84-4: Carapace.

1 female. FP-83-6, 13 Jul 1983, R. B. and L. K. Manning, W. D. Lee, rake, 1 male [taken with *L. benedicti*]. FP-84-4, 10 Jul 1984, R. B. and L. K. Manning, D. L. Felder, and W. D. Lee, yabby pump, 1 female.

Specimen from FP-82-7 deposited in IRCZM, remainder deposited in USNM.

Size.—Carapace length of male, 4 mm, of 3 females, 5 to 9 mm. Williams (1984) reported a specimen 19 mm long, and Efford (1971) reported a male 6 mm long.

Remarks.—The male and the smallest female (Fig. 2) differ from the two larger specimens (Fig. 3) in having a distinct elongate patch of dark pigment in each eye; this pigment is completely absent in larger specimens of this species. Efford (1971:61) noted that eye pigment was always present in juveniles.

Until now this species was not known south of Sapelo Island, Georgia, on the Atlantic coast of the United States (Williams 1984). Like some other Carolinian species generally considered to be restricted to the Carolinas and Georgia on the Atlantic coast,

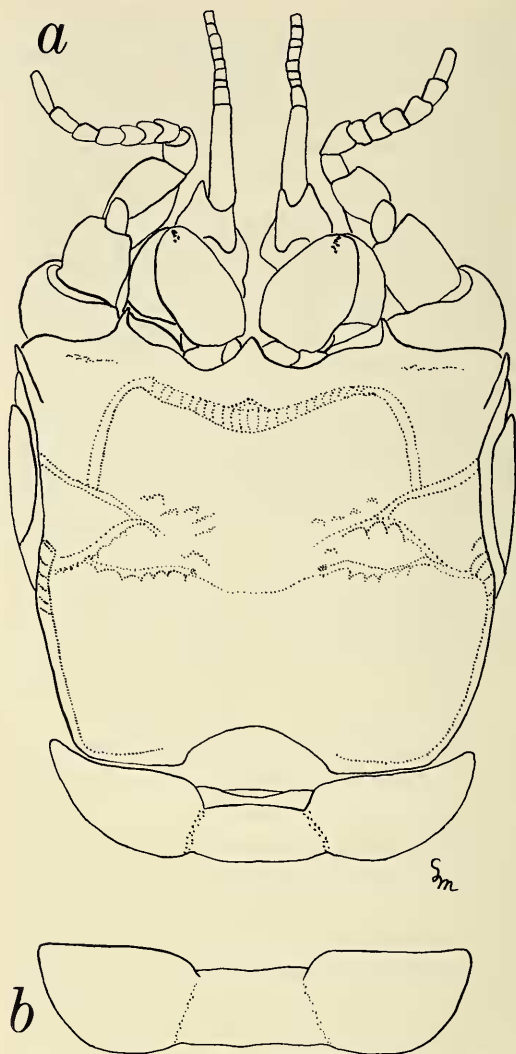


Fig. 4. *Lepidopa venusta* Stimpson, female, cl 6.5 mm, Trinidad (USNM 141353): Carapace.

e.g., *Callichirus major* (Say, 1818) (see Manning & Felder 1986) and *Pinnixa cristata* Rathbun, 1900 (see Manning & Felder, in press), this species appears to be not uncommon in the central Florida east coast.

Efford (1971:91) noted that "the easiest character separating *venusta* from *websteri*" is the presence in *L. venusta* of a bulge or obtuse projection on the anterior margin of the carapace, between the ocular sinus and the anterolateral spine. This is a subtle but

distinctive character, and as I can find no published figure of the carapace of *L. venusta* in which this feature is well illustrated, I provide here a figure of *L. venusta* (Fig. 4). Curiously, Efford (1971), in his revision of *Lepidopa*, gave no figure of the carapace of *L. venusta*. The only recent figure of the carapace of this species was given by Gomes (1965); in it the bulges are not well marked.

Acknowledgments

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